SAMPLE REQUIREMENT

PHYSICIAN SURVEY OF GENETIC TESTING

INTRODUCTION

Background

Research and development in genetic testing for cancer susceptibility genes has advanced rapidly in recent years, allowing healthy individuals, cancer patients, and their families to determine if they carry mutations which increase their risk of breast, ovarian, prostate, colon, and other cancers. While initial efforts have unfolded primarily in academic medical centers that families at high risk for cancer, factors such as advances in diagnostic technology, industry initiatives to commercially market tests, and a potential demand for their use by the larger medical community and the public are propelling the diffusion of genetic testing for cancer susceptibility genes into the general population. There is currently no information available for assessing the prevalence of genetic testing for cancer susceptibility genes at the national level, or for evaluating the knowledge of and attitudes towards such testing among physicians of various specialties. The NCI will support a physician survey designed to ascertain national data related to these issues as part of an effort to track the utilization of genetic testing for cancer susceptibility genes in the U.S.

The General Scope of Work

The NCI will support a nationally-based physician survey on genetic testing for cancer susceptibility genes, using a questionnaire which is outlined in preliminary form in Appendix A. The objectives of the survey are to determine the utilization of genetic tests by physicians at the national level; to ascertain physician knowledge of available genetic tests for specific cancer susceptibility genes, to examine physicians' general attitudes towards testing, and; to evaluate variation in utilization and knowledge/attitudes by medical specialty, type of practice, year of training completion, board status, urbanicity, and geographical region.

The MAO holder will identify a sampling plan which allows for statistically stable comparisons of questionnaire responses between targeted physician subgroups specified by NCI (see Statement of Work). The MAO holder will also specify survey methods which optimize response rates, including but not limited to, how the survey instrument should be administered, what type of preliminary contact with respondents is necessary, and how many attempts at contact should be made. The MAO holder will work with NCI project officers to complete survey instrument development, and will subsequently pilot test and refine the instrument prior to initiating the survey. The MAO holder will also prepare the documentation required by the Office of Management and Budget for clearance. The MAO holder will field the study, providing the NCI with scheduled progress reports, and will computerize and clean the data, providing statistical analyses to the NCI as requested.

STATEMENT OF WORK

Task 1 - Survey Instrument Design

A draft of the elements to be included in the survey instrument is included in Appendix A. Using these elements, the MAO holder shall develop, revise, format, and finalize an instrument which is designed for mail and/or telephone interviews, to elicit valid responses based on discussion with Project Officer(s), and Pilot testing. It is suggested that respondents receive pre-notification of the interview and are provided with appropriate information and lead time in preparation for the actual interview. The instrument design and general survey plan should reflect this consideration. The MAO holder shall determine whether the survey should use mailed surveys, phone surveys, or a mix of the two.

In formulating the instrument design and general survey strategy, the MAO holder should consider employing, as consultant or subcontractors, researchers who have had experience in conducting surveys of physicians, as well as professional organizations. The MAO holder shall submit the draft instrument for review by the Project Officer(s) in accordance with the delivery schedule.

Task 2 - Preparation of OMB Clearance Package

The MAO holder, in consultation with the Government Project Officer(s), shall produce all necessary documentation to be submitted to the Office of Management and Budget for OMB clearance.

Task 3 - Obtaining the Universe of Physician Specialists

In order to obtain a list of the addresses of all targeted physician specialties in the United States the MAO holder should consider consulting published lists of physician specialty colleges or organizations such as AMA or AOA. The specialities to include in the survey are general and family practice, internal medicine, pediatrics, general surgery, surgical oncologists, obstetrics and gynecology, dermatology, urology, neurology, ophthalmology. Within the specialities of internal medicine, we would like to oversample oncologists, and gastroenterologists.

Task 4 - Sampling Design

The MAO holder shall provide a mechanism for selecting a nationally-based random sample of physicians out of the universe specified in Task 3. The method used to select the sample must be provided and justified by the MAO holder.

The MAO holder shall design a study which comes as close as possible to meeting or exceeding the Government's criteria for precision. If this degree of precision is found, during the course of the study, to be unobtainable within the cost constraints of the study for some or all of the information sought, the MAO holder shall present an analysis of the tradeoffs between cost, precision, and elimination of some of the survey items and the survey design will be modified in consultation with the Project Officer.

Stratification of the sample by regional location (i.e., the standard census divisions - Pacific, Mountain, W.N. Central, W.S. Central, E.N. Central, E.S. Central, New England, Middle Atlantic and S. Atlantic; or the MAO holder is also invited to consider more disaggregated geographic stratification) and by urban versus rural location. The MAO holder should bear in mind that users of the survey may be interested in obtaining national estimates of the survey variables, regional estimates of these variables, and in testing whether these estimates are statistically significantly different between regions or by urban/rural location. The users of the survey will also be interested in analyzing differential responses by physician specialities. The MAO holder shall submit a sampling strategy which is consistent with the above considerations and may incorporate stratification by region and urban/rural location, if such stratification is feasible within the overall cost and precision criteria of the study.

The survey will involve only physicians engaged in clinical practice, in solo or group practice settings, and in private practice or managed care organizations (e.g. Networks, PPO, IPA, salaried HMOs). Physicians engaged in both clinical practice and research within research institutions (e.g. academic medical centers, research oriented managed care, research facilities, university hospitals) should also be included.We would like to oversample comprehensive cancer centers. Ineligible physicians include retirees, physicians involved in teaching, research or administration who are not engaged in any clinical activities, and physicians in training who are not yet board eligible for their speciality.

Since it is expected that non-responders to this survey may have different characteristics than responders, the MAO holder shall consider the problem of non-response bias in the sample design of the survey and devise methods of data collection which will facilitate correction for non-response bias in the analysis of the data.

Task 5 - Pretest of Survey Instrument

The survey instrument shall be pre-tested on a limited sample to demonstrate that the instrument and general survey approach are designed to obtain adequate response rates (i.e., adequate number of physicians willing to participate in the survey and adequate responses to each item of the survey) and that the questions can be answered in the time budgeted for each survey. It is especially important that the performance of the survey instrument/general survey strategy be demonstrated in regard to obtaining the data. If the survey fails to meet these criteria in the pre-test phase, the survey must be modified by the MAO holder in consultation with the Project Officer(s). The MAO holder should obtain a response rate that will conform with OMB standards.

Task 6 - Data Collection Methods

The MAO holder shall prepare and deliver specifications and documentation for a rapid and accurate system to collect and track mail and/or telephone interview data. Interviews will be conducted on a sample of physicians as described above. In addition, the MAO holder shall also provide specifications and documentation for an advance contact by phone and/or mail of potential survey participants. The purpose of the advance contact is to notify potential respondents of the intent to collect information. The MAO holder shall be responsible for preparation and tracking of the information mailed in advance

to survey participants, the collection of information returned by potential survey participants, and appropriate coding and keying of information received from survey participants prior to conduct of the survey. The MAO holder shall provide a schedule for completion of the advance mailing.

The MAO holder and the Government will assure that the questionnaire will have proper skip patterns, potential response categories, and interviewer prompt cues. The MAO holder will be responsible for all steps necessary to provide advance notice to the potential respondents. Final production and copies of the questionnaire will be the responsibility of the MAO holder.

Task 7: Interviewer Hiring, Training and Monitoring

Sub-task 7a: Interviewer Hiring

The MAO holder will provide the services of a sufficient number of trained interviewers and other necessary personnel, such as medical record reviewers, to complete the required number of interviews, and other data collection efforts, in the specified time frame.

Sub-task 7b: Interviewer/Record Reviewer Training

The MAO holder shall develop and conduct a standardized and documented training program for all interviewers and supervisors which applies standard interviewing and administrative procedures to the administration of the questionnaire. The program shall be documented in an Interview Instruction Manual. Training materials and a formal plan for training and evaluation and shall include the following:

1) An explanation of the survey emphasizing its purpose and importance, and the need to maintain a positive image with the interviewees (in order to maximize response rates to critical questionnaire items);
2) The administrative specifications of the study, including dates of the scheduled interviews, time of the day, number of call backs and call back rules, refusal conversion strategies, reporting procedures, quality control procedures, and instructions for selection of eligible respondents; and,

3) Detailed review of all questions including definitions of terms, response categories, question by question instructions, methods of probing and recording, and any other points which need clarification. The interviewer training program will be conducted by the MAO holder and will include non sample practice interviews. Training, including listening to actual interviewing, will be monitored by the Project Officer.

Sub-task 7c: Quality Control of Data Collection

The MAO holder shall develop a systematic process to monitor the performance of the interviewers during the field period, including performance criteria and methods to identify substandard interviewers, with

provisions to either improve their performance or replace them. A sufficient sample of actual interviews are to be monitored to assure quality control.

Provisions to allow the Project Officer to monitor actual interviews shall be described.

The MAO holder will work with the Project Officer(s) to provide a review of the background and goals of the study which will serve as the basis for an interviewer training manual and a question by question explanation of all questionnaire items, including interviewer probes. The MAO holder is expected to incorporate these study-specific tools into an appropriate training program which will include standard interviewer training techniques. The Project Officer(s) will review all manuals, instructions, etc. and these materials will be modified in response to reviewer comments before they are put into use.

Task 8: Conduct of Interviews/Record Reviewers

The MAO holder shall conduct the required number of interviews/reviews by using the systematic procedures developed and pretested for data collection. A completed interview shall include all questionnaires with the critical questions answered completely. Critical questions will be identified by the Project Officer(s). The MAO holder should track the data collection and produce periodic reports regarding response rates (see subtask 9b). The MAO holder will consult with the Project Officer(s) to discuss these response rates, in order to modify data collection or other methods if response rate are less than expected.

Task 9: Data Handling

Subtask 9a: Data Storage

The MAO holder shall develop and implement a system to be used by itself and any subcontractor(s) to code, edit, verify and store the data as it is collected. The MAO holder shall provide a clean raw data file for the survey containing the data from the completed questionnaires (by ID number), plus all disposition reports obtained by the MAO holder and any subcontractor(s). The machine readable format of the file to be used will be specified by the government. The MAO holder is responsible for insuring that any subcontractor(s) collects and transmits data to the MAO holder in a manner that will enable him to merge multiple data files into the master format specified by the government in a rapid, cost efficient and practical manner. Procedures to track and log the disposition of all questionnaires at the various stages of the process should be described. The procedures shall be documented in a data collection management manual. An formatted analytic file for statistical analyses will be developed from the raw data file. Complete documentation shall be supplied for each of the data files generated which includes: a list of variables, codes, coding rules, edit specifications, edit flags, and a data dictionary.

Subtask 9b: Interim Tabulations and Progress Reports

Monthly progress reports shall include updates and evaluations ofthe survey operation as well as complete tabular summaries of the interview data. Both cumulative and month-specific data should be presented. During the field period(s), weekly conference calls will be conducted as determined by the Project Officer. A brief follow-up status reports will be provided to the Project Officer, which shall contains information in points 1 through 3 below. The interim data should be presented in graphical chart format to permit visual interpretation. Information in these monthly reports, at a minimum, shall include:

1) Number and percent of physicians for whom contact was attempted, indicating whether they were new or repeat contacts. Also show number and date of contact attempts per physician and result of contact efforts for each date of attempt.
2) Number and percent of physicians who completed the questionnaire.
3) Number and percent of physicians who MAO holder attempted to contact but who did not complete the questionnaire, in total and by category of non-response (i.e., correct address and/or phone number could be ascertained; refused; not located; re-scheduled, etc.).
4) Number of respondents and non-respondents by physician demographic group (i.e., age, sex, region, urban/rural, speciality, type of practice).
5) Number of refusals, point where the refusal occurred if during direct interview, reason for refusal and number of refusal conversions.
6) Response frequencies for individual questions (for monthly only).

Subtask 9c: Data Analysis

In the proposal, the MAO holder should describe the analytical plan which would include the following analyses. The offeror shall also include a description of other relevant analyses not detailed here, and a rationale for additional suggestions, if any , and budget implications.

The MAO holder shall: 1) construct an appropriate analytical file using statistical software approved by the Project Officer(s); 2) perform statistical analysis of the data collected and produce a hard copy of such analyses; 3) present and summarize selected results in tables. The Project Officer(s) shall direct all analyses and receive a hard copy of the above analytical runs from the MAO holder.
The following analyses shall be performed;

1) Distributions of all questionnaire response variables
2) Distributions of all physician demographics (age, sex, region, speciality, urban/rural, type of practice, board status, year of completion of specialty training)
3) Cross-tabulations of physician demographics and questionnaire response variables
4) Multivariate analyses to determine predictors of response, as directed by the Project Officer(s).

Task 10: Final Report

A final report describing the survey protocol, including sampling and survey methods for the pilot and main survey, final response rates and distribution of non-respondents by reason for non-response, data editing and storage details, problems encountered, and modifications made during the survey shall be provided to the project officers. This report should be delivered no later than two years after the award of the contract.

DELIVERABLES

The Contractor shall prepare and submit the following reports and other deliverables in the manner stated below:

1. MONTHLY PROGRESS/BUDGET REPORTS AND WEEKLY STATUS REPORTS

By the tenth of each month, the Contractor shall submit a written Monthly Progress and Budget Report to both the Project and Contracting Officers that documents and summarizes work performed during the previous month to include the weekly status summaries, as described in Subtask 9b. In addition, weekly conference calls will be conducted and brief follow up status summaries, as described in (Subtask 9b), shall be provided to the Project Officer(s). The monthly progress reports shall document any difficulties experienced during the conduct of the study and suggested resolutions shall be made. The monthly budget report shall document the level of specificity required and the expended person hours identified by personnel category. Cumulative dollar figures shall also be provided and compared to planned costs of the tasks. The report shall cover the first calendar month following the effective date of the contract, in addition to any fractional part of the initial month. The Contractor will be required to meet with the Project Officer(s) and other NCI staff on a regular basis.

2. FINAL REPORT

The Contractor shall submit a written Final Report by the termination of the contract. The report shall include a summation of the work performed and results obtained and salient results obtained for the entire contract period of performance, as described in Task 10 of the Statement of Work. The Contractor shall submit with the Final Report, a Summary (not to exceed 200 words) of salient results achieved during the performance of the contract. The Final Report shall be in sufficient detail to describe comprehensively the results achieved. The final report shall include: 1) an inventory of all documentation maintained (and modified) by the Contractor during the period of the contract (including users manuals, coding manuals, test instruments, etc.), a copy of all tapes, diskettes, and data sets with automated documentation which is in accordance with the standards specified by NCI staff; 2) a list of any DCRT accounts, initials, keywords, and RACF passwords used by the Contractor

if applicable, plus an inventory of all tapes, diskettes, and data sets assigned to accounts, and a brief description of each.

The Contractor shall provide the Contracting Officer and the Project Officer with a copy of the Final Report in draft form 60 calendar days prior to its scheduled delivery date. The Project Officer shall review the draft report and provide the Contractor with comments within 14 calendar days after receipt. The Final Report shall be revised if necessary and the final version delivered within 14 calendar days after receipt of comments from the government.

3. OTHER DELIVERABLES

Computer files

Computer files of collected and edited data, including raw IBM-compatible files and files formatted for statistical analyses approved by the Project Officer(s), shall be provided as requested by the Project Officer(s). Data will be requested periodically throughout the contract period. At the end of the contract, data files of all collected information and appropriate documentation shall be provided to the Project Officer(s).

SPECIFIC ADDITIONAL TECHNICAL PROPOSAL INSTRUCTIONS TO THIS TASK

General Technical Proposal Instructions are contained in Appendix B. To assist offerors in preparation of their proposal the Government provides the following additional details concerning the Statement of Work. These details also provide uniform assumptions for estimating effort.

1. PERSONNEL

The Contractor shall provide the necessary support staff to carry out all aspects of the workscope. This should include a project manager, statistician(s), programmer/analysts, technical support personnel, and administrative/clerical support. The offeror shall document the relevant experience of any persons proposed and shall justify the need for persons with various capabilities.

A. Project Manager (Masters level or above)

The Project Director should have at least 5 years of experience managing personnel and directing studies that involved:

1) conducting large population surveys such as surveys of national samples.
2) developing and administering questionnaires, including those directed to physicians.
3) maintaining participation rates conforming to government standards, converting potential dropouts, and following up non-participants, including in physician surveys

4) assessing reliability and validity of collected data
5) editing and analyzing questionnaire data
6) preparing a package for Office of Management and Budget review

B. Programmer/Analyst

The Programmer/Analyst should be experienced in supervising personnel, writing and implementing data management systems, and manipulating and analyzing large data sets.

C. Statistician (Ph.D.)

The statistician should have at least 5 years of experience in:

1) the design and choice of sampling frame for nationally-based studies,
2) Sampling of selected occupational subgroups, preferably physicians.

The proposal may include technical support personnel such as coder, telephone supervisor, telephone interviewer, data entry person and key entry supervisor.

APPENDIX A

List of variables to be obtained from sampling frame data base, or if not available, through inclusion in the questionnaire:

medical specialty, type of practice, year of training completion, board status, urbanicity, and geographical region.

List of Elements to be developed as Questions for Physician's Survey on Genetic Testing for Cancer

1. What year did you graduate from Medical School?

2. In what year did you or will you take your (sub)speciality board exams?

3. What is your type of speciality?

4. Cancer susceptibility genes are genes that may indicate an increased chance of developing cancer later in life..Have you ever referred a healthy patient for a genetic test for inherited cancer susceptibility?.

   What tests were these?
   Where did you send them for referral?
   In what year did you start referring patients for these tests?
   Do you offer or refer the patient for any type of counseling prior or post testing?

5. Have you ever referred a cancer patient for a genetic test for inherited cancer susceptibility?

   What tests were these?
   Where did you send them for referral?
   In what year did you start referring patients for these tests?
   Do you offer or refer the patient for any type of counseling prior or post testing?

6. Have you ever referred a cancer patient for a prognostic tumor marker test involving DNA, or oncogene expression?

   What tests were these?
   Where did you send them for referral?
   In what year did you start referring patients for these tests?
   Do you offer or refer the patient for any type of counseling prior or post testing?

7. Do you intend to use these genetic tests for inherited cancer susceptibility tests in healthy patients in the future?

8. Do you think genetic tests for cancer susceptibility will become useful in your daily practice in the future?

9. Would you like continuing education in this area?

10. Do you feel you have the knowledge to recommend these tests?

11. Do you believe testing healthy patients for cancer susceptibility genes will have a beneficial impact on their lives?

12. Are you concerned that testing healthy patients for cancer susceptibility genes will have a impact on a patients ability to get or retain health insurance?

13. If you administered a test for cancer susceptibility are you confident that the results would remain confidential from the patient's employer?

14. If a test for genetic susceptibility to cancer were available, would you consider recommending testing of a cancer patient's close blood relatives?

15. Would you be willing to request blood samples from patients for testing of cancer susceptibility if it would contribute to cancer research?

16. Use of other screening modalities.
    Do you routinely refer patients for the following screening tests:pap smears, mammograms, fecal occult tests, sigmoiodoscopies.

17. Have you been approached by any companies marketing genetic tests?

18. Do you know of tests for breast, colorectal, ovarian, lung, prostate, currently available?

19. Do you take a family history of cancer from your patients?
20. Vignettes?
    Example:

    If you had a patient with a history of three first degree relatives with colon or rectal cancer, one of whom is below the age of 50 at diagnosis, would you recommend genetic testing of cancer susceptibility for this patient?